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SPECIFIC TEACHING OF SILENT READING

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Teachers find that pupils who read very well selections from their readers do not show the same ability when they try to read their textbooks in geography and arithmetic. The same variability appears in the scores made by pupils in different standard reading tests. The explanation which suggests itself for these facts is that reading abilities vary according to the types of material with which the pupil deals. Ability to read literary selections seems to differ from ability to read understandingly problems in arithmetic; ability to read geography differs from ability to read poetry.

In order to test the validity of the explanation suggested a number of teachers in the schools of Cincinnati[1] gave to their pupils a series of tests in which a number of different kinds of material were presented, including arithmetic, geography, civics, grammar, narrative material, and poetry. This material, as nearly as was possible, was selected from books designed for use in the same grade. In no test were there any vocabulary difficulties involved.

The material was printed on single pages, with questions below. The questions were such as the average teacher would ask to test the comprehension of similar reading material in an ordinary class assignment. Some required mere selection of facts; others required judgment.

Instructions were printed at the top of each test. The pupils were told what the material contained. "These paragraphs tell you how hair nets are made." "These problems tell the story of a family who took an automobile trip." Then, "You may read as often as is necessary to answer the questions. Work as rapidly as you can." The directions were folded back so that they could be read and discussed before the class began to read.

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[1] The following teachers co-operated in the study: Miss Foley, Westwood School; Miss Bausch, Guilford School; Miss Healey, Rothenberg School; Miss Hassimier, 25th District School; Miss Williams, Dyer School; Mrs. Sibert, Riverside School; Miss Plotner, Robert Fulton School; Miss Webb, Winton Place School; Miss Broderson, Chase School.

No attempt was made to control the time as the only element to be measured was comprehension of various kinds of subject-matter. Conditions for conducting the test were as nearly uniform as possible. The tests were given at the same period on successive days.

Three examples will serve to show the types of material used in the tests. The first is the arithmetic reading, the second the narrative selection, and the third the test in grammar.

TEST IN READING ARITHMETIC MATERIAL

The following problems tell the story of a family who took an automobile trip. You are to read the problems and to answer the questions printed below but you are not to work any of the problems. You may read them as often as is necessary to answer the questions. Work as rapidly as you can.

Number your answers just as the questions are numbered.

1. The Brown family took a two weeks' trip in their automobile. They went 975.6 miles in all. They did not ride on Sundays. How far did they go per day on the days that they did ride?

2. It cost $21.32 for gasoline, $2.80 for oil, and $4.75 for repairs. Mr. Brown estimates the wear and tear on automobile and tires at 3¼ cents per mile. Using this estimate what was the total cost of running the car for the trip?

3. They spent twelve nights and had twelve breakfasts at farm houses or small hotels. Twice they paid $1.75 for lodging and breakfast for the family. Five times they paid $2.00. Four times they paid $2.50. Once they paid $3.50. What was the total cost for lodging and breakfasts?

4. They bought food at stores and bakeries for their noon and evening meals, spending $17.57 in all for the fourteen days. (*a*) How much did their noon and evening meals cost per day? (*b*) They expected to spend $1.40 per day. How much less did they spend per day than they expected?

QUESTIONS

1. How many days were the Brown family using their automobile while on their trip?

2. What different things did Mr. Brown consider in figuring the cost of running the car?

3. In what different places did they get something to eat?

4. For how many days did they need to buy food?

5. How many different prices are given as costs of breakfast and lodging?

6. Why could you not find what the cost was for each member of the Brown family?

TEST IN READING NARRATIVE MATERIAL

The following story tells you about an automobile accident. You may read it as often as is necessary to answer the questions. Work as rapidly as possible.

Number your answers as the questions are numbered.

Not long ago some of the people in our neighborhood had a picnic over on Deer Creek. Soon after we arrived at the picnic grounds it was discovered that some one had forgotten the watermelons, and Nick Lathrop at once volunteered to go back to town after them; he is a good fellow and no one can help liking him. So away he went, and the last we saw of him he was going so fast everybody thought he would be back in ten minutes.

The women began getting supper ready, and when Nick didn't come back in half an hour we all began worrying, particularly his wife, who was always expecting something to happen. Eddie Batty and Walt Bell went out to see what the trouble was.

This is what had happened: Nick was rushing along after the watermelons and hurrying, as supper was late anyway. Suddenly ahead of him, in the dark, loomed up a red light. Nothing makes Nick Lathrop so impatient as a car ahead of him, and when he saw the red light he thought it was the tail light of a car, and made a dash to go round it. The red light turned out to be a lantern to give warning that a bridge was out. Nick went into the creek at sixty miles an hour, and when Eddie Batty and Walt Bell brought him back he was a sight.

QUESTIONS

1. Where were these people when this story happened?
2. What was Nick going after?
3. How long did the crowd think it would take Nick to go to town and back?
4. Why was his wife worried?
5. What bad automobile habit did Nick Lathrop have?
6. What fooled him?
7. Do you think he was lucky or unlucky?
8. Give the reason for your answer to the last question.

TEST IN READING GRAMMAR MATERIAL

The following sentences tell you how a piece of written work should look when you hand it in to your teacher.

Read the instructions carefully and then prepare the paper you have been given just as the sentences tell you. You may read the sentences as often as is necessary to do what they tell you. Work as rapidly as you can.

1. In the upper left-hand corner write your name. In the upper right-hand corner write the name of your grade.
2. In the center of the first line write this title: My Lucky Day.
3. Leave one line between the title and the first line.

4. Leave a margin of at least one inch at the left-hand side of the paper. Do not leave any unnecessary space at the right side of the page.

5. Use lines to show where you would write. Pretend you are writing one paragraph. Indent the first word about one-half inch from the margin.

The tables show at once the general variation due to the change in subject-matter. Uniformly the scores indicate that the reading in arithmetic was poor, while in the information and narrative material it was better. Grammar and arithmetic showed the greatest range of abilities in classes, yet in the case of individuals there are striking cases of other variations. Ella, for example, with a score of 100 per cent in grammar has but 30 per cent in geography. Walter with 83⅓ per cent in arithmetic has 33 per cent in poetry; Sylvan with 8 per cent in arithmetic and 50 per cent in geography has 100 per cent in grammar.

The variation in scores is doubtless due to the lack of specific training which would make the reading of arithmetic as easy as the reading of a narrative. The failure to answer the questions relative to the reading of the arithmetic was not because of any arithmetical calculations or reasoning involved, the questions being mere fact questions. The only question requiring any knowledge of a principle of arithmetic was No. 6, and this appeared in the individual scores to be less often missed than the others.

In the case of informational and narrative material there has been rather specialized practice in doing just this sort of reading. The pupils are trained to read and to answer questions relative to subject-matter of this type. Even poetry, with its obscure sentence structure and less familiar vocabulary, does not present the difficulties encountered in arithmetic and grammar. Why? Probably because modern textbooks and teachers have developed a technique of getting the meaning of poetry.

The question arises at once as to the relative difficulty of different kinds of subject-matter. Obviously the various selections are not equally difficult, but this is probably because of the lack of specifically trained reading habits. It remains to develop reading techniques suitable to these diversified kinds of material before any conclusive weighting of sentences can be made. Yet these are exactly the kinds of reading that are considered to be of equal

TABLE I

NUMBER TAKING TESTS, MEDIAN PERCENTAGES SCORED IN ANSWERING QUESTIONS, AND CLASS RANGE IN THE VARIOUS TESTS

	Arithmetic	Civics	Grammar	Geography	Poetry	Narrative
Stowe, Grade V						
No. tested	20	....	20	20	20	....
Class Median	66	....	33⅓	80	83⅓	....
Range	33⅓–100	....	0–83⅓	10–100	33⅓–100	....
N. Fairmount, Grade V						
No. tested	40	....	40	40	40	40
Class Median	66⅔	....	100	90	83	87½
Range	25–91	....	50–100	20–100	16–100	50–100
Guilford, Grade VA						
No. tested	28	....	33	29	29	....
Class Median	41	....	50	90	83	....
Range	0–91	....	0–100	10–100	50–100	....
Guilford, Grade VB						
No. tested	26	....	29	26	25	....
Class Median	50	....	66	70	50	....
Range	0–100	....	16⅔–100	0–100	33⅓–100	....
Winton Place, Grade V						
No. tested	43	....	43	43	43	43
Class Median	66⅔	....	100	80	66⅔	87½
Range	0–100	....	66⅔–100	30–100	16⅔–100	37½–100
Riverside, Grade VI						
No. tested	36	38	38	35	37	....
Class Median	58	77	79	70	66	....
Range	0–91	20–100	0–100	10–100	40–100	....
Chase, Grade VI						
No. tested	37	38	40	39	37	....
Class Median	75	100	100	100	80	....
Range	5–100	77–100	0–100	70–100	16⅔–100	....
N. Fairmount, Grade VI						
No. tested	44	....	44	44	44	44
Class Median	66⅔	....	83	70	83	87½
Range	50–100	....	66⅔–100	20–90	50–100	50–100
Winton Place, Grade VIA						
No. tested	17	....	17	17	17	17
Class Median	75	....	100	85	71	81
Range	50–100	....	67–100	65–100	43–100	81–100
Winton Place, Grade VIB						
No. tested	39	....	39	39	39	39
Class Median	64	....	84	85	84	88
Range	17–92	....	0–100	30–100	34–100	2–100
Guilford, Grade VI						
No. tested	32	....	30	27	30	....
Class Median	58	....	66	70	66	....
Range	0–100	....	0–100	40–100	16⅔–100	....
N. Fairmount, Grade VII						
No. tested	28	....	28	28	28	28
Class Median	75	....	100	90	83	87½
Range	41–91	....	33⅓–100	50–100	33⅓–100	50–100

TABLE I—*Continued*

	Arithmetic	Civics	Grammar	Geography	Poetry	Narrative
Winton Place, Grade VIIB						
No. tested	14	....	14	14	14	14
Class Median	73	....	83	80	75	69
Range	42–100	....	33–100	35–100	17–100	44–100
Winton Place, Grade VIIA						
No. tested	40	....	40	40	40	40
Class Median	84	....	84	90	67	100
Range	0–100	....	34–100	60–100	17–100	63–100
Westwood, Grade VII-1						
No. tested	30	....	30	30	30	30
Class Median	75	....	100	90	83⅓	100
Range	50–100	....	33⅓–100	60–100	37½–100	87½–100
Westwood, Grade VII-2						
No. tested	30	....	30	30	30	30
Class Median	75	....	100	90	84	100
Range	50–100	....	50–83	50–100	33–100	75–100
Westwood, Grade VII-3						
No. tested	30	....	30	30	30	30
Class Median	83	....	100	84	100	100
Range	8–100	....	0–100	30–100	50–100	61–100
Westwood, Grade VIII-1						
No. tested	39	....	39	39	39	39
Class Median	91	....	66	80	66	87
Range	16⅔–100	....	16⅔–100	40–100	16⅔–100	50–100
Westwood, Grade VIII-2						
No. tested	45	....	45	45	45	45
Class Median	75	....	100	90	83	100
Range	33⅓–91⅔	....	33⅓–100	60–100	33⅓–100	75–100
Winton Place, Grade VIII						
No. tested	41	....	41	41	41	41
Class Median	100	....	100	100	100	100
Range	75–100	....	60–100	57–100	50–100	50–100
N. Fairmount, Grade VIII						
No. tested	28	....	28	28	28	28
Class Median	75	....	100	90	83⅓	100
Range	50–100	....	50–100	70–100	50–100	50–100
Dyer, Grade VIIIA						
No. tested	34	....	....	35	33	33
Class Median	75	....	....	80	66⅔	87½
Range	16⅔–91⅔	....	....	40–100	16⅔–100	37½–100
Dyer, Grade IXC						
No. tested	27	....	....	24	23	30
Class Median	58⅓	....	....	80	50	75
Range	0–91⅔	....	....	10–100	33⅓–100	50–100
Dyer, Grade XB						
No. tested	34	....	....	36	32	35
Class Median	58⅓	....	....	70	50	75
Range	0–100	....	....	20–100	16⅔–100	37½–100

difficulty. The grammar test is typical of the instruction that textbooks assume to be meaningful to pupils, i.e., select nouns, underline predicates, inclose in quotation marks, etc. The difficulty is one of understanding and following directions, a specific kind of comprehension evidently requiring special training.

TABLE II

RECORDS OF INDIVIDUALS

	Arithmetic	Civics	Grammar	Geography	Poetry	Narrative
Riverside School:						
William	8	100	50	80	33	....
Jack	91	100	33	90	83	....
Lillian	16	100	66	....	66	....
Evelyn	33	90	50	70	100	....
Ella	75	55	100	30	33	....
Dyer School:						
John	75	....	....	100	33	50
Sam	75	....	....	70	16⅔	100
Wilbert	16⅔	....	....	40	100	75
Walter	83⅓	....	....	90	33	75
Chase School:						
Bertha	58	100	0	100	100	....
Roberta	75	100	66⅔	100	50	....
Westwood School:						
Sylvan	8	....	100	50	100	100
Stewart	16⅔	....	100	40	100	100
Gordon	25	....	0	80	66⅔	100

TABLE III*

DISTRIBUTION OF SCORES IN A SINGLE SCHOOL

	Geography	Poetry	Grammar	Arithmetic
Number taking test	107	151	147	94
Percentage making score of 100 per cent	14	.08	10	20
Percentage making score of 0 per cent	0	.006	.01	.03

The analysis of how we read any particular type of material would probably reveal the need for far more specific training than we usually give and would doubtless eventuate in suggestions as to the methods of studying certain subjects.

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* In one school where the tests were given in eleven grades the results were tabulated so as to show the percentage of pupils taking each test who made 100, 90, 80 per cent, etc. While more pupils made 100 on arithmetic than on any other material, it is also true that more pupils failed completely in the arithmetic test than in any other.